



*X-Plain*TM

Vaginal Birth

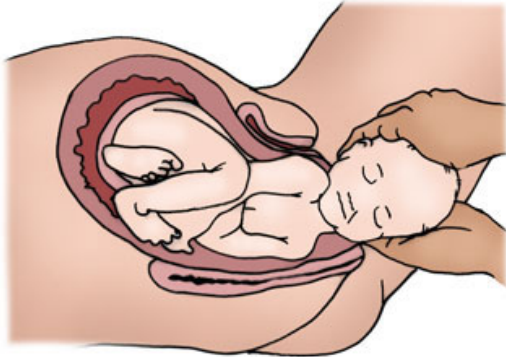
Reference Summary

Introduction

One of the happiest times in a woman's life is when she delivers a healthy baby after an uneventful pregnancy. Most women are healthy enough to deliver a baby through normal vaginal delivery.

Most deliveries are vaginal, meaning that the baby comes down the birth canal and no surgery is needed. Each year, about 3 million childbirths in the USA are vaginal.

This reference summary reviews the anatomy of the female reproductive system and explains vaginal delivery. It discusses the stages of labor and delivery, as well as potential risks and complications.



Anatomy

In order to understand labor, it is important to know about the female reproductive organs. They are located in the pelvis, between the urinary bladder and the rectum.

The female reproductive organs include:

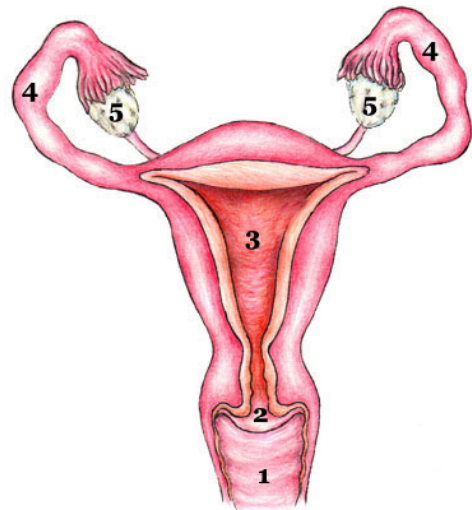
1. The vagina

2. The cervix

3. The uterus

4. The fallopian tubes

5. The ovaries



When an ovary releases an egg, the egg goes down the fallopian tube to the uterus. It may become fertilized along the way.

If a woman gets pregnant, the fetus stays in the uterus until delivery. The uterus is able to expand a lot.

The lowest part of the uterus is called the cervix. It opens into the vagina, which opens to the outside of the body between the urethra (the urinary bladder opening) and the rectum.

Pregnancy

During pregnancy, the baby is in a special fluid called amniotic fluid. The baby and amniotic

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fluid are in a bag called the “amniotic sac” inside the uterus.

The baby gets nutrition from the placenta. The placenta is an organ between the amniotic sac and the uterus, which grows with the baby during pregnancy.

The mother’s blood delivers oxygen and nutrients to the baby’s blood through the placenta. The mother’s blood also removes waste from the baby’s blood through the placenta.



The baby’s blood travels to the placenta through the umbilical cord. The mother’s blood does NOT go into the baby’s body.

When it is almost time for the baby to come out, its head drops down into the mother’s pelvis. This causes the mother’s belly to look slightly smaller. This is called lightening.

Labor

Labor starts when the mother feels cramps in her abdomen. The cramps are the uterus muscles tightening, or contracting.

When contractions start, they usually happen about every 20 minutes. As they keep happening, there is less and less time between them. The body is ready to push the baby out when there are only 5 minutes between contractions.

There are 3 stages of labor.

1. Dilation and effacement stage
2. Baby delivery stage
3. Placenta delivery stage

During the dilation and effacement stage, the cervix slowly becomes 10 cm wide. This is called dilation.

Also during dilation and effacement, the cervix becomes thinner. This is called effacement. When the cervix is completely effaced and dilated, the mother is asked to push.

The baby delivery stage starts when the cervix is 10 centimeters wide. This is about 4 inches. This is when the mother is asked to push during contractions. The baby moves through the cervix and vagina and comes out! The path the baby travels through is called the birth canal.

After the baby is delivered, the placenta delivery stage starts. This is when the placenta comes out, or is delivered.

Stage 1

Labor starts when the mother feels cramps in her abdomen. These are contractions of the uterus. This is a sign that the body is getting ready to push the baby out.

The mother may have back pain or a little vaginal bleeding during labor contractions.

Sometimes the mother has cramps from time to time before real labor starts. If the cramps occur every 5 minutes, labor might have

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actually begun. In this case, she should contact her obstetrician or midwife.

Other times the amniotic sac opens up and the amniotic fluid seeps out through the vagina. When this happens, we say the mother's "water broke." Labor should start if the water breaks.

If labor does not start after the water breaks, a doctor should be notified. The doctor may need to induce labor with medication. Otherwise, the baby could be exposed to infections through the birth canal.

At the hospital, your obstetrician, family physician or midwife will monitor you and your baby very closely.

A special belt is placed around the abdomen that measures the strength of the contractions and how long they last. It also measures the baby's heart rate. Your healthcare provider may place, through the birth canal, another monitor on the baby's head.

As the contractions get stronger, the contractions push the baby down against the cervix on its way to the vagina.



During the first stage of labor, the cervix slowly becomes 10 cm or 4 inches wide. This is called dilation. It also becomes thinner which is called effacement. During dilation and effacement, the mother is not supposed to

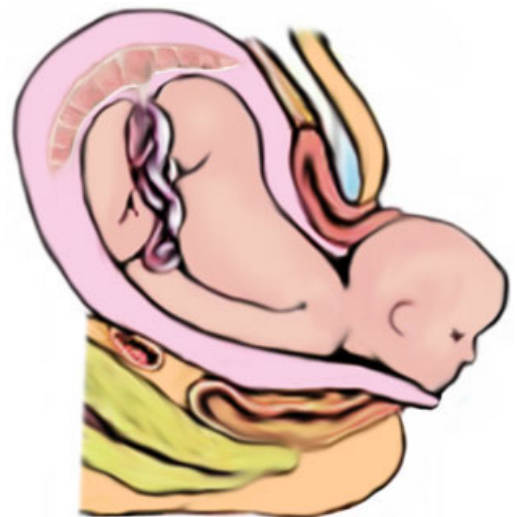
push the baby out because the cervix is not wide enough yet.

Your doctor or nurse will examine you frequently until your cervix is fully dilated and effaced. This is when the second stage of labor begins.

Stage 2

The second stage of labor starts when the baby goes through the widened cervix, through the vagina to the outside world! This is when the mother pushes with each contraction.

If the baby is big and the healthcare provider thinks it may rip or tear the vagina, he or she may make a surgical incision in the vagina. This helps the baby come out easier without damaging the vagina and surrounding tissues. The incision is called an episiotomy.



The episiotomy is made to prevent future complications such as stool incontinence. It is also easier to sew and heals better than a tear.

Sometimes forceps are used to help the baby go faster. Forceps are tools that hold the baby's head and pull him or her out. Using forceps is very safe and helps prevent possible complications if the delivery is not going fast enough.

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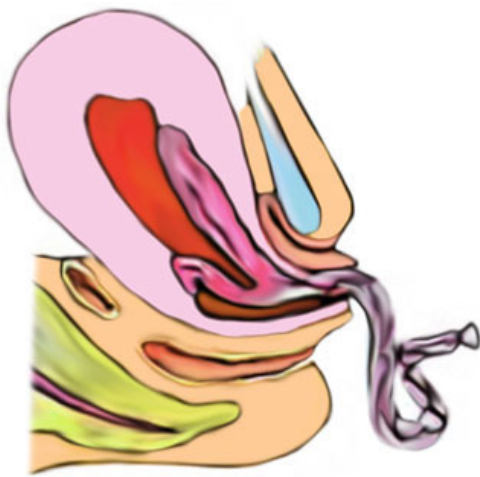
As soon as the baby is out, the umbilical cord is cut with special clamps. This is not painful to the baby or the mother.

Stage 3

The placenta is delivered during the third stage. The doctor or midwife examines the placenta and the cord for tears.

Next, if an episiotomy was performed, the doctor or midwife sutures the incision.

The changes that occurred in the mother's body during labor start going back to normal during the first hour after birth.



Pain Control

Some women, especially those who have had several babies, do not need medication to control pain during delivery. However, most women need some form of anesthesia to relieve the pain of labor and delivery.

There are many ways to control pain experienced with delivery. These include:

1. Medication
2. Regional anesthesia
3. Epidural Block

Intravenous medications are given in a blood vein. They can relieve some pain. However, they may cause the mother to feel sleepy or nauseous. Intravenous medication can also affect the baby since some of it gets into the baby's blood. This may make the baby groggy.

Regional anesthesia is delivered with a needle through the vagina to numb the pudendal nerve. This relieves some pain and the mother can still feel her contractions and help push.

The most common way to control pain during delivery is the epidural block. It is used for vaginal deliveries and cesarean sections. Medication is delivered to the nerves of the spine in the lower back. An epidural block is very successful in eliminating pain while preserving muscle strength so the mother can push the baby out. It does not affect the baby.

Rarely, the mother is put under general anesthesia. During general anesthesia, the mother is put to sleep. This is mostly used for Cesarean sections.

Risks

Most deliveries have no problems at all. However, there are some possible risks and complications. You should know about them just in case they happen.

Labor and delivery can be very stressful on the baby. Rarely, this results in injuries. An example is a stress injury to the nerves of the arm, resulting in permanent weakness.

If the baby's heart rate drops for a long time, its brain could be affected. This may lead to developmental problems. Sometimes these problems are not diagnosed until the child is older.

The mother could bleed a lot or get an infection. She may need a blood transfusion or antibiotic treatment.

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Depending on what position the mother is in during delivery, nerves in the legs could become compressed. This can cause weakness in the legs, but it is usually temporary.

Many risks that used to cause babies or mothers to die are now very rare thanks to advances in medicine. The baby is monitored very closely and emergency C-section can be done if needed.

Cesarean Section

Most women deliver their baby vaginally. However, some situations make vaginal delivery dangerous. In these cases, the doctor may decide to perform a Cesarean section.

A doctor performs a Cesarean section if he or she thinks it is safer than vaginal birth for the mother or her baby. Most C-sections are done if unexpected problems happen during delivery.



The most common reasons for a C-Section are:

- The baby is not tolerating labor
- The baby is not in the right position

- There is not enough room for the baby to go through the vagina
- The cervix does not completely dilate
- There are medical emergencies

The healthcare provider monitors the baby during labor. If the baby does not get enough oxygen for a long time, it could suffer brain damage or die. The baby may not get enough oxygen if the umbilical cord is pinched or the placenta stops working.

For normal vaginal delivery, the baby's head comes out first. If the baby is positioned so its buttocks or feet will come out before its head, it is called a breach position. A breach position can make vaginal delivery impossible, requiring a C-section. Breach position is more likely with twins or triplets. Sometimes the baby's head is too large or the mother's birth canal is too small for a safe vaginal delivery.

If the cervix does not dilate to 10 centimeters, there may not be enough room for the baby to pass through. Long labor is very exhausting and risky for the mother and baby. In such cases, a C-section might be best.

Some medical emergencies make C-section necessary. For instance, the placenta could break away from the uterus before delivery. This is called "placenta abruptio." Another example is if the umbilical cord comes out before the baby during labor.

Sometimes the doctor knows ahead of time that a C-section is best. If a woman has had a C-section before, the doctor may recommend it for her next baby. However, it is possible for a woman to give vaginal birth even if she has had a C-section before.

Sometimes the placenta is too low in the uterus and it covers the cervix. This is called "placenta previa." In this case, the placenta blocks the birth canal and vaginal delivery is very risky.

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Usually the doctor can tell if there is a placenta previa weeks before the delivery.

The doctor may suggest a C-section if the mother has a medical condition. Such conditions include

- Diabetes
- Heart disease
- Lung disease
- Infectious diseases of the genital area

After Delivery

Women should get out of bed and walk shortly after a delivery. This helps blood circulate in the legs and prevents blood clots. Blood clots can be lethal.



The nurses in the hospital or your midwife will teach you the best ways to take care of your baby. They will also help you with breast-feeding and answer any questions you may have. Some vaginal bleeding and spotting after a delivery are normal. If you have heavy bleeding or if it is foul smelling you should contact a doctor.

It is normal to feel some soreness in the genital area after a delivery. This could last anywhere from a few days to a couple weeks.

Sexual intercourse is usually not recommended for 6 weeks after a vaginal delivery. For a woman who has had a C-section, the doctor can tell you how long to wait before having sexual intercourse again.

It is normal for women to feel “blue” after a delivery. However, it is very important to tell your doctor about it. He or she may be able to help you overcome these feelings.

It takes several weeks for a woman’s uterus and vagina to go back to the size they were before the pregnancy.

Summary

About 3 million women in the U.S. give birth vaginally every year. That is about 3 out of 4 childbirths.

Labor starts when the mother feels cramps in her abdomen. These are contractions of the uterus muscles. When contractions happen every 5 minutes, the body is ready to push the baby out.

There are 3 stages of labor.

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During dilation and effacement, the cervix slowly becomes 10 cm or 4 inches wide. This is called dilation. The cervix also becomes thinner which is called effacement. The mother should not push until the uterus is fully effaced and dilated.

When the cervix is 10 cm wide, the baby delivery stage starts. This is when the baby moves through the cervix and vagina to the

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outside world! The path the baby travels through is called the birth canal. This is when the mother needs to push during contractions.

Most women require some form of anesthesia to help relieve the pain of labor and delivery. The most common type of anesthesia is the epidural block. Most deliveries occur with no problems at all. However, there are some possible risks and complications. You need to know about them just in case they happen.

Many risks that used to cause babies or mothers to die are now very rare thanks to advances in medicine. The baby is monitored very closely and emergency C-section can be done if needed.



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